

# Work Order ID 86141

**\*86141\***

Page 1

June-21-12 8:38:29 AM

Item ID: D4004-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Side Restraint Angle

Stop **\*NS2\***

Start Date: 21/06/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 05/07/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 12/06/21

Tooling:

Date:

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4004	B

100

0.00

**\*100\***

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg (D4004-1)

Dwg Rev: B

Prog Rev: B

2024 .063"

2-Deburr if necessary

4 0 Jun 12-6-24

110

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*110\***

QC

Memo

0.00

Quality Control

4 0 Jun 12-6-24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 86141

June-21-12 8:38:29 AM

**\*86141\***

Page 2

Item ID: D4004-041  
Revision ID:  
Item Name: Side Restraint Angle  
Start Date: 21/06/2012 Start Qty: 4.00  
Required Date: 05/07/2012 Req'd Qty: 4.00  
Reference:

Accept

**\*N900040100\***

Setup Start **\*NS1\***  
Stop **\*NS2\***

Cust Item ID:  
Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***  
Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 <b>*120*</b> QC Quality Control	QC8- Inspect parts - second check  Memo	0.00  0.00				4			12/06/24
130 <b>*130*</b> Brake NC Brake NC	Bend as per dwg  Memo 1- Bend D4004-1 as per Dwg 2- C'sink as per dwg	0.00  0.00				(4)			12/06/25 12/06/25
140 <b>*140*</b> QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00				(4)			5/17/2020

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 86141

June-21-12 8:38:29 AM

**\*86141\***

Page 3

Item ID: D4004-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Side Restraint Angle

Start Date: 21/06/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 05/07/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Chemical Conversion Coat per QSI005 4.1	0.00							
<b>*150*</b>									
HandFinish	Memo	0.00							
Hand Finishing									
155	QC7-Inspect Chemical Conversion Coat	0.00							
<b>*155*</b>									
QC	Memo	0.00							
Quality Control									
160	Gloss Grey (4.3.5.15) per QSI 005 4.3	0.00							
<b>*160*</b>									
Powdercoat	Memo	0.00							
Powder Coating	Start Time: 8h45								
	Oven Temperature: 320°F								
	Finish Time: 9h15								

4 7h45 12-6-27

4 8h45 12-6-28

4 8h45 12/06/28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 86141

June-21-12 8:38:29 AM

**\*86141\***

Page 4

Item ID: D4004-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Side Restraint Angle

Stop **\*NS2\***

Start Date: 21/06/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 05/07/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

170

QC3- Inspect Part Finish

0.00

**\*170\***

QC

Memo

0.00

Quality Control

4. 0. BL 12-6-08.

180

0.00

**\*180\***

Small Fab

Memo

0.00

Small Fab

Assemble as per dwg

4. FF 12-09-20

190

QC5- Inspect part completeness to step on W/O

0.00

**\*190\***

QC

Memo

0.00

Quality Control

SmB 12-9-20 / DAS 16 12/14/12

4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Work Order ID 86141

June-21-12 8:38:29 AM

**\*86141\***

Page 5

Item ID: D4004-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Side Restraint Angle

Start Date: 21/06/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 05/07/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200 Identify as per dwg & Stock Location: **243A**

0.00

**\*200\***

Packaging Memo

0.00

Packaging

(40) 12/9/21 SD

210 QC21- Final Inspection - Work Order Release

0.00

**\*210\***

QC Memo

0.00

Quality Control

12/9/24 JA

MF  
12-09-24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

June-21-12 8:38:33 AM

Page 1

Work Order ID: 86141

\*86141\*

Parent Item: D4004-041

\*D4004-041\*

Parent Item Name: Side Restraint Angle

Start Date: 21/06/2012

Required Date: 05/07/2012

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP rev A 09.12.15 new issue Prelim EC verified by:DD IPP Rev:B  
10.05.17 as per ECN10-562 DD verf: IPP Rev:C 12.03.07 as  
per dwg rev.b DD verf: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M2024T3S.063

Purchased

No

100

sf

268.9700

0.22

0.926316

\*M2024T3S 063\*

2024-T3 .063 sheet

\*\*

Jun 12-6-20

Location

Loc Qty

Loc Code

MAT022

268.97

119916

73.27

121197

195.7

D4004-3

Manufactured

No

180

Each

7.0000

1

4

\*D4004-3\*

Strut Lock Bracket

\*\*

(4) FF 12-09-20

Location

Loc Qty

Loc Code

GA

7

80021

7

D4004-7

Manufactured

No

180

Each

46.0000

1

4

\*D4004-7\*

Hose Clip

\*\*

(4) FF 12-09-20

Location

Loc Qty

Loc Code

GA

46

79992

1

85482

45

4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

June-21-12 8:38:33 AM

Page 2

Work Order ID: 86141

Parent Item: D4004-041

Parent Item Name: Side Restraint Angle

\*86141\*

\*D4004-041\*

Start Date: 21/06/2012

Required Date: 05/07/2012

Start Qty: 4.00

Required Qty: 4.00

MS20426AD4-4

Purchased

No

180

Each

3,012.000

1

4

\*MS20426AD4-4\*

\*\*

Rivet

(4) FF 12-09-20

Location

Loc Qty

Loc Code

GA

2864

121090

2864

ST317

148

121068

148

4

MS20426AD4-5

Purchased

No

180

Each

4,661.000

2

8

\*MS20426AD4-5\*

\*\*

Rivet

(4) FF 12-09-20

Location

Loc Qty

Loc Code

ST317

4661

6874

4661

8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	86141
<b>Description:</b> Side Restraint		<b>Part Number:</b>	D4004-1
<b>Inspection Dwg:</b> D4004 <b>Rev:</b> A		<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.098	+0.004/-0.001	0.098"	✓	✗	Hand	mmol
Ø0.129	+0.005/-0.001	0.129"	✓		✓	"
3.65	+/-0.030	3.654"	✓		✓	"
0.223	+/-0.010	0.224"	-		✓	"
10.63	+/-0.030	10.632"	-		✓	Revised
2.99	+/-0.030	3.001"	✓		✓	mmol
5.79	+/-0.030	5.791"	✓		✓	"
0.87	+/-0.030	0.871"	✓		✓	"
2.40	+/-0.030	2.398"	-		✓	"
1.38	+/-0.030	1.38"	✓		✓	"
0.50	+/-0.030	0.505"	✓		✓	"
0.79	+/-0.030	0.792"	-		✓	"
0.38	+/-0.030	0.376"	-		✓	"
0.98	+/-0.030	0.986"	-		✓	"
1.18	+/-0.030	1.177"	-		✓	"
1.56	+/-0.030	1.569"	✓		✓	"
0.063	+/-0.010	0.064"	✓		✓	"

<b>Measured by:</b> SM	<b>Audited by:</b> [Signature]	<b>Preliminary Approval:</b>	N/A
<b>Date:</b> 12.6.24	<b>Date:</b> 12.08.24	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	10.08.03	New Issue	KJ	[Signature]

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

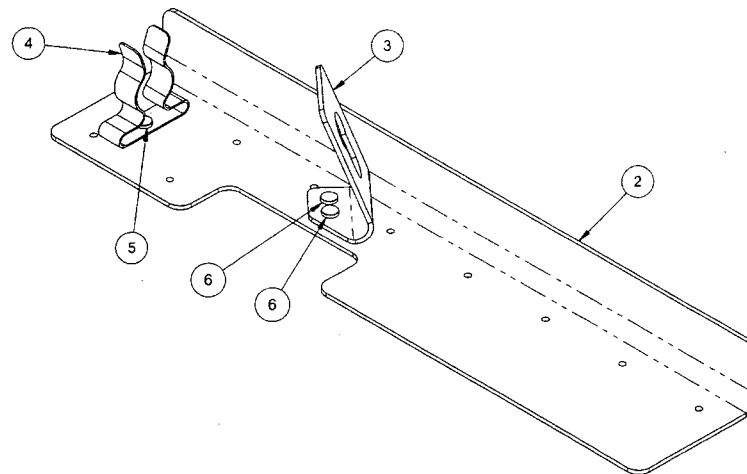
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



ITEM NO.	QTY. -041	PART NUMBER	DESCRIPTION	JOHN CAMERON AVIATION PART NUMBER
1	X	D4004-041	SIDE RESTRAINT ANGLE	JCA-M47-2-19
2	1	D4004-1	SIDE RESTRAINT	
3	1	D4004-3	ANGLE	
4	1	D4004-7	HOSE CLIP	
5	1	MS20426AD4-4	RIVET	
6	2	MS20426AD4-5	RIVET	



**D4004-041 SIDE RESTRAINT ANGLE**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "ANSI 61 GREY" (4.3.5.15) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.21 lbs



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 06141 MLJ  
12/00/21

**RELEASED**  
2012-03-03  
JMD

B	CHANGE POWDER COAT FROM "GREY SANDEXT" TO "ANSI 61 GREY", ZN AS-1, ZN AS-2.	DC	12.02.27
A	NEW ISSUE	HS	10.02.10
REV.	DESCRIPTION	BY	DATE
DESIGN	DC	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	DC		
CHECKED	DC	DRAWING NO.	REV. B
MFG. APPR.	EE	D4004	SHEET 1 OF 11
APPROVED	MLJ	TITLE	SCALE
DE APPR.	MLJ	SIDE RESTRAINT	NTS
DATE	12.02.27	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

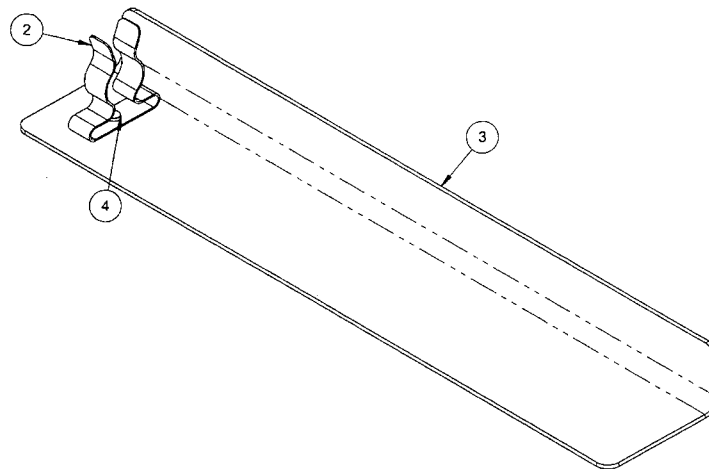
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

ITEM NO.	QTY. -043	PART NUMBER	DESCRIPTION	JOHN CAMERON AVIATION PART NUMBER
1	X	D4004-043	SIDE RESTRAINT ANGLE AND TIE DOWN POINT	JCA-M47-2-04
2	1	D4004-7	HOSE CLIP	
3	1	D4004-9	ANGLE	
4	1	MS20426AD4	RIVET	



**D4004-043 SIDE RESTRAINT ANGLE AND TIE DOWN POINT**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "ANSI 61 GREY" (4.3.5.15) PER DART QSI 005 4.3  $\triangle$  B
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.20 lbs

DESIGN	JS	<b>DART AEROSPACE LTD</b>	
DRAWN	BC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	JS	DRAWING NO.	REV. B
MFG. APPR.	JS	D4004	SHEET 2 OF 11
APPROVED	JS	TITLE	SCALE
DE APPR.	JS	SIDE RESTRAINT	NTS
DATE	12.02.27	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

RELEASED  
R 2012-03-02  
NM

86141

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

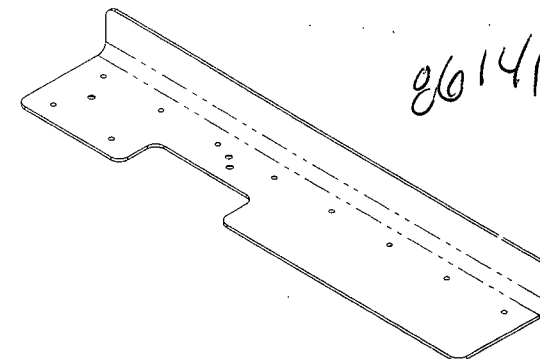
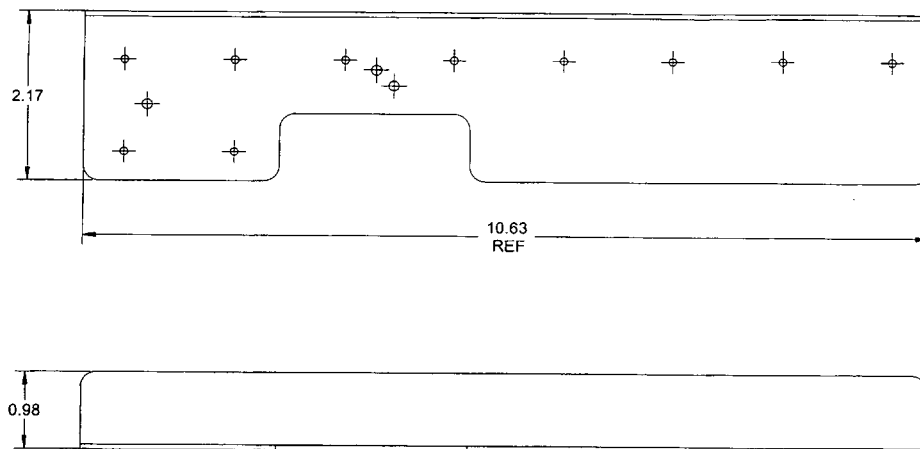
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DART AEROSPACE PART NUMBER	JOHN CAMERON AVIATION PART NUMBER
D4004-1	REF JCA-M47-2-19



R0.19

# **D4004-1 SIDE RESTRAINT**

RELEASED  
2012-03-02  
JMP

## **NOTES:**

- 1) MATERIAL: MADE FROM D4004-1F
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.18 lbs

DESIGN	BC	<b>DART AEROSPACE LTD</b>	
DRAWN	BC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	BC	DRAWING NO.	REV. B
MFG. APPR.	BC	D4004	SHEET 3 OF 11
APPROVED	JMP	TITLE	SCALE
DE APPR.	JMP	SIDE RESTRAINT	NTS
DATE	12.02.27	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD			

**Dart Aerospace Ltd**

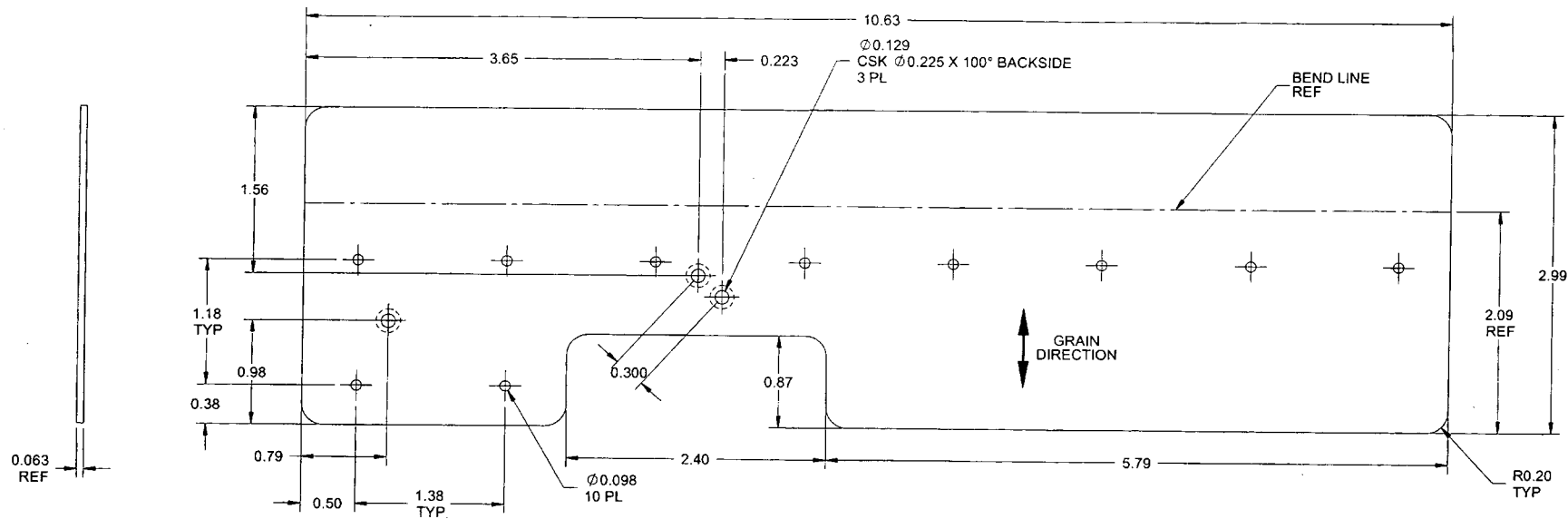
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

**Part No:** \_\_\_\_\_ **PAR #:** \_\_\_\_\_ **Fault Category:** \_\_\_\_\_ **NCR:** Yes No **DQA:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Resolution:** \_\_\_\_\_ **Disposition:** \_\_\_\_\_ **QA: N/C Closed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

g/0141



**D4004-1F FLAT PATTERN**

RELEASED  
2012-03-02

**NOTES:**

- 1) MATERIAL: 2024-T3 ALUMINUM SHEET, 0.063 THICK  
PER QQ-A-250/4 OR AMS-QQ-A-250/4  
OR AMS 4037 OR ASTM B209  
REF DART SPEC M2024T3S.063
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.18 lbs

DESIGN	DE	<b>DART AEROSPACE LTD</b>	
DRAWN	BC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DE	DRAWING NO.	REV. B
MFG. APPR.	EE	<b>D4004</b>	SHEET 4 OF 11
APPROVED	MP	TITLE	SCALE
DE APPR.	MP	<b>SIDE RESTRAINT</b>	NTS
DATE	12.02.27	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

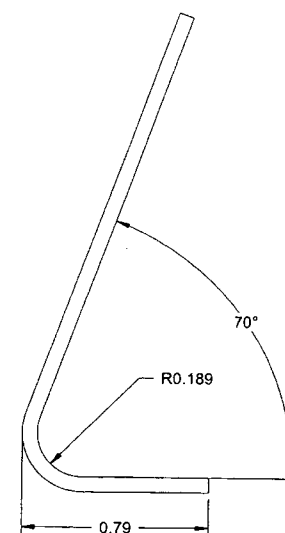
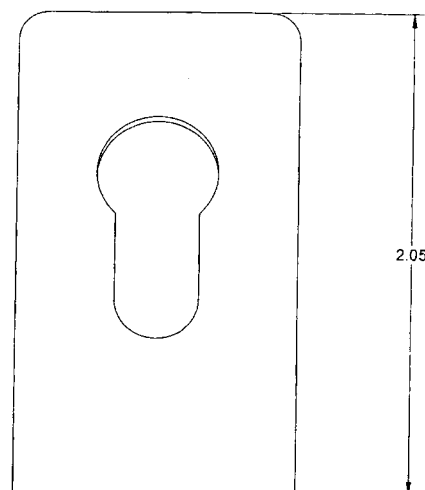
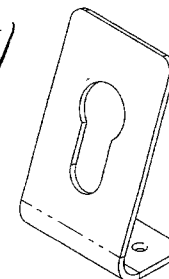
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DART AEROSPACE PART NUMBER	JOHN CAMERON AVIATION PART NUMBER
D4004-3	REF JCA-M47-2-19

20141



# **D4004-3 STRUT LOCK BRACKET**

RELEASED  
2012-03-02  
M

## **NOTES:**

- 1) MATERIAL: MADE FROM D4004-3F
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.02 lbs

DESIGN	JE	<b>DART AEROSPACE LTD</b>	
DRAWN	BC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	JE	DRAWING NO.	REV. B
MFG. APPR.	JE	D4004	SHEET 5 OF 11
APPROVED	142	TITLE	SCALE
DE APPR.	142	SIDE RESTRAINT	NTS
DATE	12.02.27	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

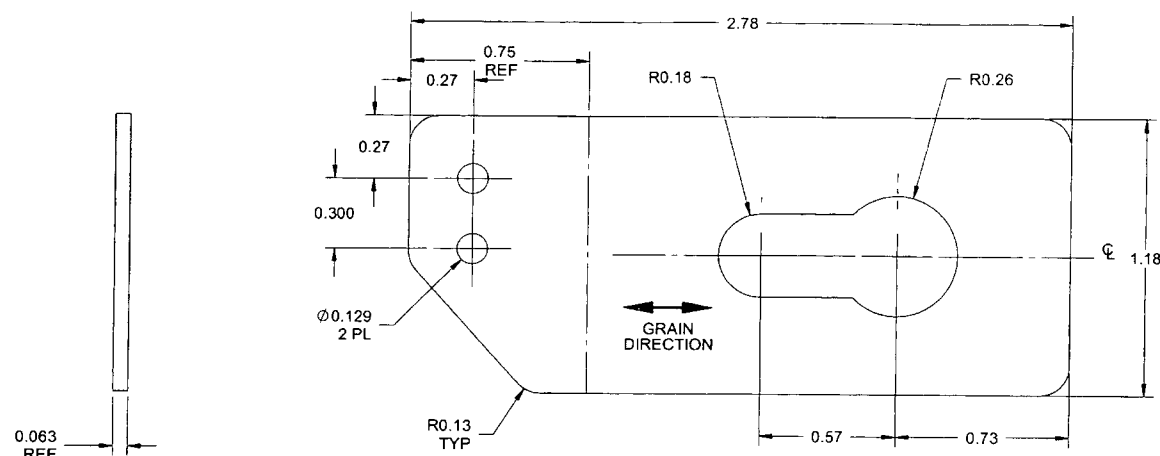
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

86141



**D4004-3F FLAT PATTERN**

RELEASED  
2012-03-02

- NOTES:**
- 1) MATERIAL: 2024-T3 ALUMINUM SHEET, 0.063 THICK  
PER QQ-A-250/4 OR AMS-QQ-A-250/4  
OR AMS 4037 OR ASTM B209  
REF DART SPEC M2024T3S.063
  - 2) FINISH: N/A
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 0.02 lbs

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN	JS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	JS	DRAWING NO. <b>D4004</b>	REV. B
MFG. APPR.	JS	SHEET 6 OF 11	
APPROVED	JS	TITLE	SCALE
DE APPR.	JS	<b>SIDE RESTRAINT</b>	NTS
DATE	12.02.27	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

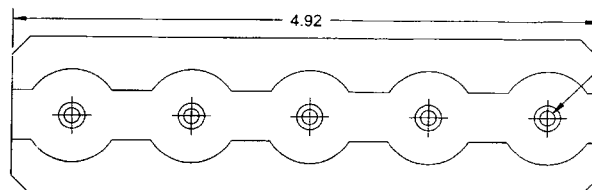
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

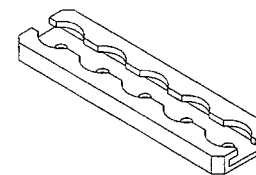
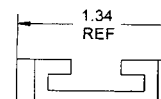
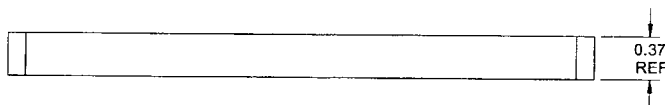
**NOTE:** Date & initial all entries

DART AEROSPACE PART NUMBER	JOHN CAMERON AVIATION PART NUMBER
D4004-5	JCA-M47-2-23



DRILL  $\varnothing 0.129$  (#30 DRILL)  
CONCENTRIC WITH SEAT TRACK  
CSK  $\varnothing 0.225 \times 100^\circ$   
5 PL

CHAMFER  $0.15 \times 45^\circ$   
TYP



26141

# **D4004-5 BOTTOM STRAP ATTACH BRACKET**

RELEASED  
2012-03-02

## **NOTES:**

- 1) MATERIAL: MADE FROM ANCRA P/N 40456-11-144  
OR BROWNLIN P/N 20276-144-0-0  
OR D3033-144
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.14 lbs

DESIGN	BC	<b>DART AEROSPACE LTD</b>	
DRAWN	BC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	BC	DRAWING NO.	REV. B
MFG. APPR.	BC	D4004	SHEET 7 OF 11
APPROVED	BC	TITLE	SCALE
DE APPR.	BC	SIDE RESTRAINT	NTS
DATE	12.02.27	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

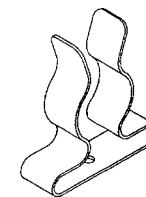
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

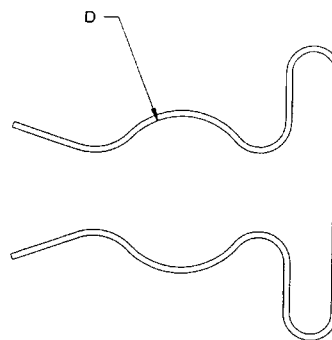
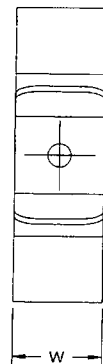
**NOTE:** Date & initial all entries

DART AEROSPACE PART NUMBER	JOHN CAMERON AVIATION PART NUMBER
D4004-7	N3 REF JCA-M47-2-19

## SPECIFICATION CONTROL DRAWING



86141



DART PART NUMBER	POSSIBLE SUPPLIER	SUPPLIER PART NUMBER	MATERIAL	FITS TUBE $\phi$ "D"	WIDTH "W"
D4004-7	MCMaster-CARR	1722A42	NICKEL PLATED STEEL	0.31 - 0.75	0.38

### D4004-X HOSE CLIP

RELEASED  
2012-03-02

- NOTES:**
- 1) MATERIAL: SEE TABLE
  - 2) FINISH: N/A
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
  - 7) WEIGHT: 0.01 lbs

DESIGN		<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA
DRAWN	<i>JS</i>	
CHECKED	<i>JS</i>	
MFG. APPR.	<i>JS</i>	
APPROVED	<i>JS</i>	
DE APPR.	<i>JS</i>	
DATE	12.02.27	DRAWING NO. <b>D4004</b> <span style="float: right;">REV. B</span> TITLE <b>SIDE RESTRAINT</b> <span style="float: right;">SHEET 8 OF 11</span> SCALE <span style="float: right;">NTS</span>
COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

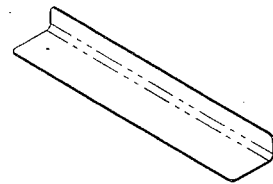
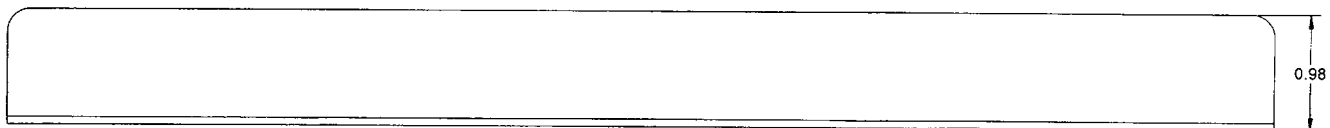
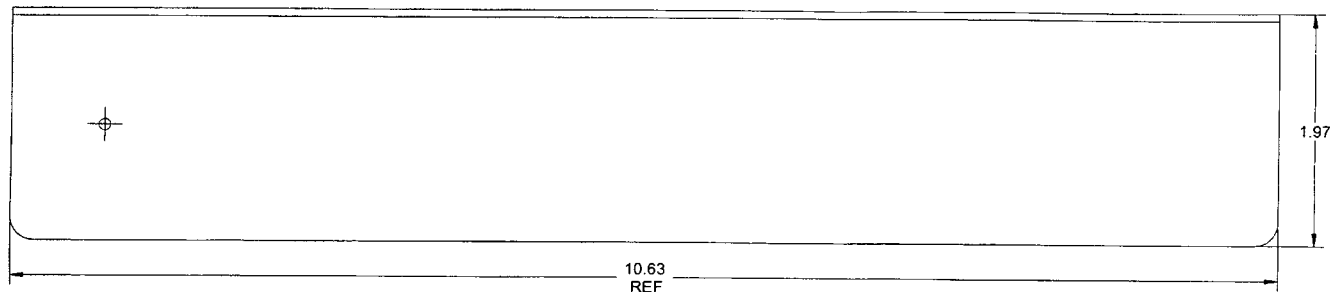
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

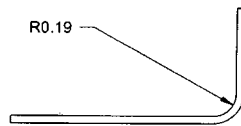
**NOTE:** Date & initial all entries



DART AEROSPACE PART NUMBER	JOHN CAMERON AVIATION PART NUMBER
D4004-9	REF JCA-M47-2-04



86141



# **D4004-9 ANGLE**

RELEASED  
2012-03-02

- NOTES:**
- 1) MATERIAL: MADE FROM D4004-9F
  - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 0.18 lbs

DESIGN	<i>BC</i>	<b>DART AEROSPACE LTD</b>	
DRAWN	<i>BC</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>BC</i>	DRAWING NO. <b>D4004</b>	REV. B
MFG. APPR.	<i>BC</i>	SHEET 9 OF 11	
APPROVED	<i>BC</i>	TITLE	SCALE
DE APPR.	<i>BC</i>	<b>SIDE RESTRAINT</b>	NTS
DATE	<b>12.02.27</b>	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

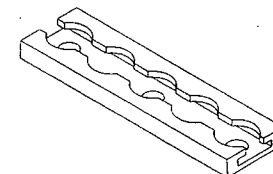
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

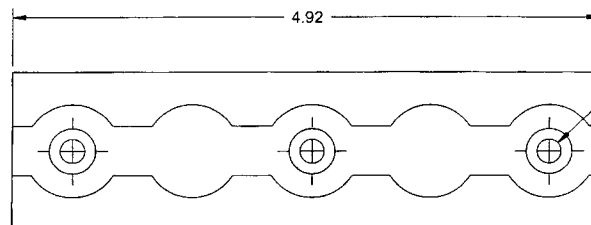
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DART AEROSPACE PART NUMBER	JOHN CAMERON AVIATION PART NUMBER
D4004-11	JCA-M47-2-11



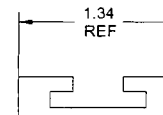
86141



DRILL  $\varnothing 0.204$  (#6 DRILL)  
CONCENTRIC WITH SEAT TRACK  
CSK  $\varnothing 0.385 \times 100^\circ$   
3 PL



0.37  
REF



1.34  
REF

# **D4004-11 TOP STRAP ATTACH BRACKET**

2012-03-01

## **NOTES:**

- 1) MATERIAL: MADE FROM ANCRA P/N 40456-11-144  
OR BROWNLIN P/N 20276-144-0-0  
OR D3033-144
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.14 lbs

DESIGN	<i>JS</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>JS</i>		
CHECKED	<i>JS</i>	DRAWING NO. <b>D4004</b>	REV. B
MFG. APPR.	<i>JS</i>	SHEET 11 OF 11	
APPROVED	<i>JS</i>	TITLE <b>SIDE RESTRAINT</b>	SCALE NTS
DE APPR.	<i>JS</i>	COPYRIGHT © 2010 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	12.02.27		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries